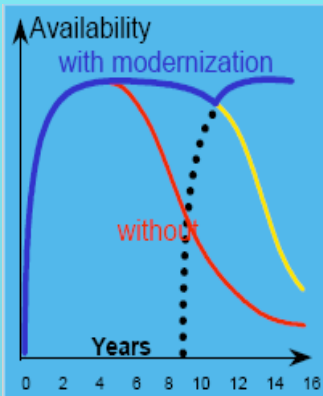




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SECURITY TRENDS

Security interacts with assets



Harmonized processes and standardized systems and services are most important to protect the security investments and achieve sustainable cost effectiveness.

Corporations increasingly rely on leading security integrators to provide proven global expertise combined with local service availability



Electronic security is strongly driven by technology innovations related to IT and virtual networks (Internet, ERP-systems)

Corporations have difficulties mastering complex new technologies and increasingly buy or outsource specialized services (multi-level electronic security, IT)



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DETEC - CCTV

Leading Digital Detection and Surveillance Systems



DETEC
-your security



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Product highlights

- A Detec network can consist of an unlimited number of Detec clients and Detec servers, supporting as many cameras as required.
- The Detec client functions both as a control interface and as a central management system. The Detec server acts as central database of recorded events.
- Remote monitoring via ADSL, ISDN, LAN/WAN, SMS, MMS and e-mail.
- Detec alarms and associated images can be sent to PCs, cell-phones or PDAs.
- Detec can be used with any combination of analogue coaxial or digital IP-based CCTV cameras.
- Pan, Tilt and Zoom (PTZ) controls available from the Detec client interface for suitably equipped PTZ cameras. Multiple PTZ protocols supported.
- Stores alarm sequences with user defined pre-alarm and post-alarm durations.
- Unique disc file system that provides a smart solution to handle failed drives.
- Event detection based on advanced mathematical algorithms, providing colour-image analysis with recognition of predefined objects and motion.
- Algorithm parameters can be usermodified to detect objects or events in specific environments.
- Possible to trigger alarms on unattended items, e.g. bags and suitcases.
- Object character recognition (OCR) on e.g. vehicle number plates or container labels.
- Image resolution from 192x144 pixels to the best resolution in the market with 768 x 576 pixels.
- Can easily be integrated to other security systems.
- Can replace video matrix systems.
- Password-protected access to different user profiles.
- Works with anti-virus programs on Windows XP

Detec is a sophisticated, flexible, automatic video surveillance system, capable of detecting, recording and transmitting activity in virtually any setting requiring security.

Detec is designed to be flexible

The Detec client-server architecture allows a security centre to support one or more separate Detec systems, with an unlimited number of cameras, using only one Detec client interface. If a central security centre does not exist, a Detec system can be managed from several different Detec clients in different locations, i.e. monitoring may be performed locally, on site, or remotely via telecommunication links.



This drawing shows how flexible Detec can be. Here you see two systems that are supported by several clients, both PCs and a PDA. At the same time you will see that one client is connected to both the systems.

This drawing shows how flexible Detec can be. Here you see two systems that are supported by several clients, both PCs and a PDA. At the same time you will see that one client is connected to both the systems.



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DETEC - CCTV

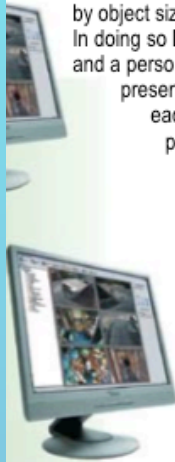
Detec reduces unwanted alarms

Detec is built around a powerful mathematical algorithm that uses colour and statistical image analysis in order to secure accurate video detection. This technology has been developed in close relation to Norwegian research centres. Detec's algorithm can uniquely be tuned for different applications and environments, making detection of the right objects in each case highly accurate.

The simplest level of Detec detection captures alarm sequences whenever any movement is detected in each camera image. The system then functions as an intelligent video recorder that only records sequences when detection (movement) is activated.

In it's most advanced mode, Detec can be used as a system that only records specific predefined situations. In this mode Detec's advanced algorithm will differentiate alarm prospects by object size, specific motion pattern, direction and speed. In doing so Detec can detect the difference between a car and a person, trigger the appropriate recording profile, and present the alarm sequence with instructions related to each type of object detected. In this way, security personnel can take the appropriate action for each type of alarm sequence generated.

Detec's algorithm can be tuned for different situations. It can accurately detect specific types of movement, as well as detecting when objects stop moving. This latter mode can be used to pick out left baggage at airports, stations, and other public places. Detec can also perform vehicle number plate recognition, to detect stolen cars, or to provide access control of vehicles to restricted areas.



Detec increases your security

Detec's highly accurate detection, recording, and notification options, liberates resources. Security guards can be exempt from pure monitoring. This means that security personnel can be redeployed for remote reconnaissance, whilst still being able to receive Detec alarms via e-mail or Detec alarm sequences/ images on cell-phones or PDAs. This capability provides increased security guard mobility, and a greater area of security coverage.

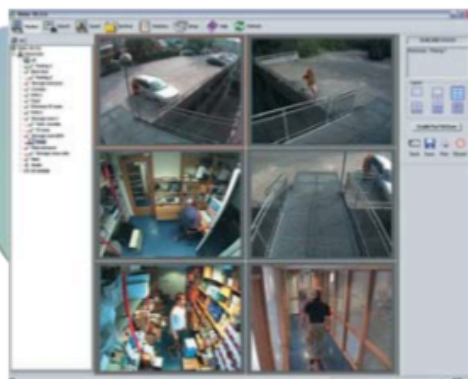
To further enhance security, Detec can also be integrated with complimentary security systems e.g. process control, access control, and fire alarm systems.

Detec is user-friendly

Detec alarm events are stored with a variable pre-alarm and a continuous post alarm sequence as long as there is an object in the picture. Detec can save events locally on hard drive or make use of any networked storage device. With easy-to-use advanced search functions, Detec functions as both a digital recording system and a content management system, allowing you to easily find, review and play back recorded alarms. Detec provides a multi-track timeline view of different types of alarm events for one or more 24-hour periods in one single screen.

You can play back, search, archive and copy events, whilst Detec detects, displays and captures new alarms.

When submitting alarm events to police or insurance firms, Detec smartly enables multi-camera sequences to be located and copied to CD/DVD with the necessary software for playback and review. All events are saved with a digital watermark in the alarm image in order to prevent manipulation of image-material.



In Search mode users have full overview over a 24-hour period, and with the playback functions at the bottom of the screen, you can easily navigate between the different alarms, picture by picture.



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Areas of Use

Today, there are more than one thousand Detec installations worldwide, covering a wide selection of industries that include:

- Offshore oil rigs, heavy industry, military installations, office complexes
- Prisons, police stations, court-buildings, government buildings and other public buildings
- Parking lots and large-scale commerce centres
- Nationwide banks, postal offices, gas stations and shops
- Churches, museums, galleries, historical landmarks and other unattended objects
- Special applications such as oil and gas leakage detection
- Underwater surveillance in public swimming pools to avoid accidental drowning

Detec is used to monitor historical landmarks, museums and galleries. In Norway, Detec is the chosen system at several "stavechurches".



Detec is also used in a series of special applications. For example, Detec is used on board ships to detect oil leakages in engine rooms...

...or to prevent drowning in swimming-pools by setting up detection on objects lying under water for e.g. more than five seconds.





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Key Selling Points – Detec systems

What are the Detec systems' features and what benefits do they offer the customer?

Features	Benefits
Full network flexibility	Allowing a sufficient number of cameras, servers and client PCs to cover critical areas
Central management system with user-friendly software	Allowing you to easily monitor sites, as well as searching, playing back, archiving and copying recorded alarms
Advanced and accurate video detection module based on mathematical algorithms, providing statistical colour-image analysis.	<p>You can easily avoid unwanted recordings of events of no interest, or on the other hand, make sure that you do not miss any events that occur.</p> <p>The accuracy of the detection module leads to recognition of predefined objects, their shape, and in what direction these objects move (tracking). Has proven capabilities in numerous different environments.</p>
<i>Colour based detection</i>	The detection is much more accurate by the fact that it can separate between objects and backgrounds based on colour image analysis, and reduces potential analysis problems that may occur because of shifting surroundings (light, clouds etc). Most competitors use video detection based on grey-scale image analysis.
Events are stored with a variable pre- and continuous post alarm sequence (as long as the object that triggered the alarm is in the image)	You can easily investigate the whole event, both what happened before and after the alarm image itself
Possible to define alarms on unidentified, still-standing objects	Makes it possible to detect left-behind objects, such as suit-cases and cars in critical areas, and in that way reveal bomb-threats.
Optional I/O-module	Easy to integrate the system with other technical security systems
Integration with other security systems	Enhances functionality and standard of security operations



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Module communication over a TCP/IP interface	<p>Makes it operational in any network based on TCP/IP technology, such as ADSL, SHDSL and ISDN over remote distances, and LAN/WAN and Ethernet in more constrained areas. Hence, the monitoring may happen locally or remotely.</p> <p>The technology makes it possible to use both IP-cameras and conventional analogue cameras.</p>
Supports both analogue and digital cameras	The system may be used with both more conventional cameras as well as the IP-cameras of tomorrow. This means that customers can make a gradual investment in new equipment.
Supports megapixel cameras from multiple manufacturers	Megapixel cameras give much better restoration of details, making it easier to identify persons, license plates, events etc. Zoom tools work very well. Megapixel cameras work very well on moving objects.
Support for several PTZ camera protocols through several I/O interface options	You can easily integrate different brands of PTZ cameras and make full use of their functions through Detec's graphical user interface
Separate user interfaces for PDAs and 3G cell phones supporting JAVA technology	Alarm sequences can be received on PDAs and cell phones while "on the move", providing increased personnel redeployment and mobility, which in turn leads to greater security coverage.
Unique disc file system	You can avoid losing all data if storage discs should be defect, through a unique security solution exclusive to Detec. It provides another solution to failed drives than pure RAID. However, RAID solutions can also be implemented upon request.
Image resolution from 192x144 pixels to megapixel resolution	You can determine whether high image resolution is important or not, and in cases where the image resolution is crucial, the image quality and details will be very well represented. In cases where resolution is not that important, you can reduce it and save events for a longer period as you allocate more storage capacity.
Password protected access to different user profiles	Helps maintain system set up and keeps distribution of information safe



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Works with anti-virus programs on Windows XP	Protects the system against viruses, which makes the system stable. Detec run on an operating system well known for most users, which reduces training costs.
Flexible system for information distribution	Alarm sequences and images can be presented and distributed to PCs, cell phones or PDAs, either as Detec archive files, SMS, MMS, E-mail or printouts. If you write Detec archive files to a CD from Detec's user interface, a program for playing back the files will automatically be attached.
Camera positions can be placed in maps	When placing camera icons in maps you can quickly identify where an event occurs.
Possible to create commands that can be displayed as buttons in the camera image	Makes it easy for guards to react to events by simply clicking a button to perform a command or set of commands. E.g. you can make command buttons to open doors in a scene where a camera points towards an entrance.
Time-controlled automatic archiving	Releases operators from manual archiving. Archiving can be done on hours when events are unlikely to occur.
Export of recordings to video file formats	Converted files (without watermark) can be played on any PC with a video file player, e.g. Windows Media Player
Colour coded alarm lists	Simplifies the work for guards monitoring the system, who will more easily be able to separate between type of alarms and can make a quicker assessment. The colour codes are logical in relation to what the system perceives an even to be.
Supports 16:9 format resolution in full screen view	Detec can be used with both 4:3 and 16:9 format LCD monitors
Window layouts can be sent and received by a user	Makes it easy for an administrator to set up clients within a network and determine what different users are able to see. It also simplifies setting up what to be viewed on monitors that does not have keyboard and mouse nearby, e.g. on displays in shops.
Users can be forced to sign in and be automatically signed out when inactive	Enhances user control and security
User Interface connection to server on port number or net address	User Interfaces can be connected to the server with both static and dynamic IP addresses



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Where are Detec-systems being used?

A few case-study examples.

Customer	Market Vertical	Description of application/system
Finnish Navy	Military	Detec is used for general surveillance and perimeter security, including monitoring shoreline perimeter intrusion. Detec overcomes the challenges faced in maritime environments such as waves and water reflection, and only notify alarms on desired objects, such as boats, within specified regions.
Akershus Fortress/ Royal Guard – Norwegian Army	Military	Confidential
Norwegian Army	Military	Confidential
Bergesen LNG tankers	Maritime	Detec is used on board most of the Bergesen LNG tankers to detect oil and gas leakages in the vessels' engine room at an early stage.
Talisman Energy Ltd	Offshore oil-platform	Detec is used on offshore oil-platforms to monitor that flares do not extinguish. This is a specialized surveillance task that requires an alarm when motion is about to stop (so-called inverse detection), with high accuracy requirements.
Norwegian Parliament	Public administration	Confidential
Kristiansand Port	Transportation/ Port	Detec systems is chosen by Kristiansand Port in order to prevent shoreline perimeter intrusion, monitor pier/dock/warehouse activity, vessel loading and unloading, monitor container area and vehicles and person entering the port. The system comprises of 68 Detec A camera licenses, 7 servers and two manned guard centres. There is a mix of analogue-, IP-, megapixel- and PTZ-cameras. The Detec system replaced the system of an international competitor that did not prove good enough.
GE Health Care	Industry	GE Health Care, Lindesnes, is one of the largest pharmaceutical factories in Scandinavia. GE Health Care, Lindesnes use Detec systems for perimeter security and operations surveillance, and the system comprise of 5 servers, with a combination of analogue, IP- and megapixel cameras – 68 in total, all with advanced motion detection licenses. The installation has two manned guard centres.



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Confidential	Prisons	Several Norwegian prisons have implemented Detec-systems to take care of video surveillance and perimeter security. Norwegian prisons have strict requirements to video detection accuracy, and keeping the false alarm rate to a minimum.
DnB NOR ASA	Banks	DnB NOR ASA is Norway's largest bank and the company recently decided to install Detec units in their branch offices nationwide to protect the offices from fraud and robberies. Detec AS' long experience in this market vertical has ensured a number of features highly appreciated in the industry.
Posten Norge AS	Postal offices	Posten Norge AS is Detec AS' largest customers and has installed hundreds of Detec units in their postal offices and transport terminals nationwide. Norwegian postal offices handle parcels, packages, mail and cash, and are under constant threat of swindle and robberies.
Sandvika Storsenter	Shopping Mall	Sandvika Storsenter is Scandinavia's largest shopping mall, and has decided to use Detec systems in combination with IP cameras. Detec was initially chosen because of its scalability and user friendliness. The system is operated by security guards during open hours, and has proved very useful as a tool in the fight against theft.
Museet for Samtidskunst (Contemporary Arts Museum)	Museum/Gallery	The surveillance system is used by the museum's guards to keep an eye on the art and visitors, and is a part of the security system in place to prevent theft and possible terrorist attacks.
Stavanger Kommune (City of Stavanger)	Public administration	The City of Stavanger has chosen Detec systems to be supplied to all their schools and other public buildings to secure them from vandalism and burglaries as well as protecting people. Detec was chosen because of the flexibility offered in terms of cameras supported, scalability and the possibility to use more advanced video detection settings on specified cameras if needed.
Haugesund Stadium	Sports Arena – Football	Pure megapixel camera solution used to monitor and record football supporters and potential hooligans and/or accidents during matches.
Marinlyst Stadium	Sports Arena – Football	A system delivered to specifically support the use of IP PTZ-cameras from Sony during football matches to monitor football supporters and potential hooligans and/or accidents.



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New Functions	Detec Version (current version at Parliament is 10.3.x.x)		
	10.3	10.4	10.5
<ul style="list-style-type: none"> When upgrading from 10.2 to 10.4 a warning will be displayed in the installation wizard, telling the user that the regions in the camera configurations will be erased, and that the user has to go through the region settings after the upgrade. 	NO	NO	YES 10.5.0.1
<ul style="list-style-type: none"> Improved pre- and post-alarm settings. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> Possible to log out of Windows by clicking a button in the user interface. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> Possible to send Monitor split views from one user interface to another. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> The user interface now supports to be connected to database modules over Internet even though the database module PC does not have a static IP address. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> A new way of searching in Search mode has been implemented, where you more easily search around a given point of time instead of a whole day. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> A barrier for opening more than one of the same module on the same PC has been implemented. (A dialog box will pop up telling you that the module is already running). I.e.: <ul style="list-style-type: none"> 1 Audio-module per audio-module-name. 1 HikVison-module. 1 Morphis-module per device-id. 1 IP-module per device-id. 1 Wavelet-module per device-id. 1 DBM-module. 1 IO-module per io-module-name. 1 PTZ-module per device-id. 1 SMS-module. 1 UI-module per ui-configset-name. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> The user interface now save to the register each time an alteration happens in the split views. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> The pre-alarms in Search-mode are indicated with a brighter shade of color that the rest of the alarms. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> It is possible to filter and hide pre-alarms in Search-mode. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> Window patterns (split views) adapted to full screen viewing in 16:9 format for wide screen monitors has been implemented. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> More advanced logic for filtering alarms. <ul style="list-style-type: none"> Only applies for Detec A and Detec Pro. Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> Functionality to prevent users from changing "Camera Name/ID" in the IP-module has been implemented: <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> When viewing live video from multiple IP cameras at the same time, the frame rate has now been increased. <ul style="list-style-type: none"> Ask for more details. 	NO	NO	YES 10.5.0.0
<ul style="list-style-type: none"> Support for Panasonic WV-NW484 and Panasonic WV-NW960 implemented. 	NO	NO	YES 10.5.0.0



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<ul style="list-style-type: none"> Support for Sony SNC-RZ50P and Sony SNC-RZ50N implemented. 	NO	YES 10.4.1.3	YES
<ul style="list-style-type: none"> In the detection modules: If a user change the value in the "Camera ID" field and click the OK button a warning will pop up. This has been implemented so that the user shall not change "Camera ID" when the user actually wants to change the camera description. 	NO	YES 10.4.1.3	YES
<ul style="list-style-type: none"> Support for new cameras implemented: <ul style="list-style-type: none"> JVC VN-25U JVC VN-26U JVC VN-V686U Vivotek PZ6112 (NTSC) Vivotek PZ6112 (PAL) Vivotek PZ6122 (NTSC) Vivotek PZ6122 (PAL) 	NO	YES 10.4.1.2	YES
<ul style="list-style-type: none"> Possible to use DirectDraw for drawing in UIM. <ul style="list-style-type: none"> Ask for more details. 	NO	YES 10.4.1.0	YES
<ul style="list-style-type: none"> The detection rate is now independent from live viewing frame rate and storage frame rate. <ul style="list-style-type: none"> Ask for more details. 	NO	YES 10.4.1.0	YES
<ul style="list-style-type: none"> For images wider than 1280 pixels, the numbers of detection cells are half the normal in width and height in order to save CPU. 	NO	YES 10.4.1.0	YES
<ul style="list-style-type: none"> ATM integration. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> Time line view and playback also available when playing back archives. Ask for more details. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> Support for JVC TK-C575 implemented. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> Support for Lumenera IP cameras implemented. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> HikVision module now supports NTSC and SECAM in addition to PAL. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> Support for Detec ActiveX SDK. <ul style="list-style-type: none"> Meaning that others can use our Detec ActiveX SDK to integrate with Detec. The following systems have so far used this SDK to integrate with Detec: <ul style="list-style-type: none"> G4Tec, Security Management System. RBH, AxiomV programme. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> Global search possibilities in Guard mode. <ul style="list-style-type: none"> Ask for more details. 	NO	YES 10.4.0.5	YES
<ul style="list-style-type: none"> When no video is available for a given time in playback in the time line view, an indication of this is displayed in the camera window. 	NO	YES 10.4.0.4	YES
<ul style="list-style-type: none"> Snapshot-button. I.e. saving still images automatically to a predefined folder when clicking the snapshot button. 	NO	YES 10.4.0.4	YES
<ul style="list-style-type: none"> Support for Arecont AV8360 and AV8180 implemented. 	NO	YES 10.4.0.4	YES



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DETEC WHITE PAPER

*This document describes the **Video Motion Detection** in the Detec software.*

18 February 2008

Version 1.0





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DETEC - CCTV

What is Detec?

Detec is a computer-based surveillance system that analyses video images from cameras positioned to monitor the security of an area or an object.

Detec processes the images and determines if they show activity that qualifies as an *alarm situation*, which may threaten security.

The equipment, connections and settings Detec uses are customized to meet the special needs of each *site* where it is an integral part of the security plan. Regardless of the details of this plan, the way Detec works, what you see and, ultimately, what you do to evaluate an alarm situation is the same.

Customized Security

Detec is designed to be flexible. It can be used in virtually any situation requiring surveillance. It is most often installed to enhance the security of a building, but it may also be used to ensure the security of a valuable object or even a person at risk.

Detec may be used, for example, to provide protection against burglary, unlawful entry, sabotage, or vandalism, at sites ranging from private homes and businesses to prisons, military bases, and police stations, to parking ramps, energy plants, historical landmarks, government buildings etc.

In addition to this wide range of applications, the setting in which you work and the duties you perform may be equally varied. For example, as a *security guard* monitoring the alarms reported by Detec, the *security centre* from which you operate may support only one computer monitor and Detec system, or several. The centre may be located at or very near the site where the cameras are, or many miles away.

It is also possible that you have unlimited access, as a *security manager*, to all of Detec's functions, including those which enable you to modify surveillance settings, or that your access is restricted to those functions related only to handling alarms.

All of these factors, and many more, are taken into consideration when Detec is first installed. Both the hardware and software are configured to specifically match the security plan for the site or sites under surveillance, for your security organization, and for you in your duties as a guard and/or security manager.

Camera positions and areas to be monitored, what Detec looks for in each area, detection schedules and levels of detection sensitivity are all well defined when you begin using Detec.



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DETEC - CCTV

How Detec Works - a typical sequence of events

When Detec is installed to receive images from a camera, a security manager for the site (or an administrator) defines the scene to be monitored.

This includes:

- Specifying the critical areas.
- Defining activity to be analysed (movement in a critical area, direction of movement, etc.)
- Defining the size and shape of objects (people, animals, vehicles, etc.) which will trigger an alarm
- Describing and defining potential alarm situations

When Detec detects activity in a video sequence that matches the criteria defined as an alarm situation for a camera position, you will immediately and automatically see an *Alarm window* on the Detec screen at the security centre. You will also hear an alarm signal. This happens regardless of whether the security centre is physically “on site” and locally monitoring activity, or some distance away, receiving information at a remote location via telecommunication lines.

Detec is always active, but as long as it determines that there is no irregular activity in a scene under surveillance, the computer monitor and/or Detec window is blank unless you are watching live video from one of the sites, examining previous alarms or producing an alarm report.

Since time is usually a critical factor when Detec alerts you of an alarm situation, you can immediately examine the video image, video sequence and/or live video shown in the Alarm window.

There is typically one Alarm window for each camera defined in the Detec system. As additional alarms are triggered in a scene, new images replace the old and move the old alarm to a smaller window; or put the new alarm into a new window. Previous images are easily available to be examined.

The action you take in response to an alarm situation depends on your evaluation of the alarm. You may determine, for example, that the alarm is *real*, requiring a quick and appropriate response, or *false*, with a known or explainable cause. In some cases, you may need to defer an evaluation until you can confer with other security personnel. In general, the action you take depends on the guidelines defined for the site and the alarm situation.

Regardless of how an alarm is triggered or evaluated, all information about it is stored in the Detec database specific to each site. Among other details, the *alarm information* includes the alarm image, pre and post alarm video sequence, the date and time the alarm was triggered, camera position, a short description of the situation (person crawling, person walking, etc.), the evaluation (real, false, deferred) that was made, and the identity of the guard or security manager who made it. You can retrieve and review the information about an alarm at any time. It is stored in the database until it is deleted according to a predefined database maintenance schedule, deleted according to rules and regulations for video surveillance in the country or until the database is so full that new alarms automatically replace old alarms.



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DETEC - CCTV

Detec's Video Motion Detection

Detec gives you the possibility to define advanced alarm criteria through a unique object classification and tracking algorithm. This makes it possible, for individual scenes, to define alarms like “truck driving from left to right”, “crawling person approaching building”, etc. However, to relieve you, as a security supervisor, of the burden of defining general and typical criteria, Detec comes with a default set-up for objects to look for, patterns of movement to follow, etc., that covers most standard security applications. Thus, the only part of the set-up that must be adjusted is a description of each camera view, in terms of its perspective.

To utilize Detec's advanced detection-functions it is recommended to read more in Detec's User Manual on how to set up detection according to your wishes and demands.

Object Classification

The object classification and tracking which forms the basis of Detec's situation analysis makes it possible to define advanced alarm criteria that must be fulfilled before Detec triggers an alarm. The reasons for utilising these possibilities may be diverse, but a few examples are:

- Differentiating between different types of situations to get a more detailed overview of the activity at a site, e.g. by setting up alarms for *person arriving* and *person leaving*.
- Differentiating between different types of traffic at a site by defining object specifications for cars, trucks and lorries.
- Limiting the number of alarms triggered by known, legal activity, whilst retaining the same degree of security for unwanted activity.
- Limiting the number of nuisance alarms triggered by well defined, re-occurring situations or changes in areas that must be encompassed by the detection.

This list is not meant to be exhaustive, but only to give you some ideas. To find out if and how the advanced settings can be utilized, you should read through this chapter with your own application in mind, and find which items are relevant.

Definitions

Here is a short glossary on important terms in Detec:

- Regions - Used to define a critical area Detec is to "watch over".
- Objects - Classification that for example separate people from cars etc.
- Motion - Defines how an object moves. This can for instance be between two regions.
- Alarms - Defines situations that Detec will react to and thus record. This may for instance be a motion pattern or similar.
- Alarm Sets - Defines a set of alarms that are to be active in a defined period.
- Schedule - Plan over which alarms (alarm-sets) that are active at what times.



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Perspective

To Detec, an alarm situation is defined as a classified object following a specific pattern of motion. The objects are described in terms of natural size (i.e. height, width, area).

Thus, whenever Detec spots an object in the scene, it will measure the real size of the object, and match this against *object templates* such as “car”, “truck” or “person”.

To measure the real size of a spotted object, Detec uses the size of the object in the image together with the position of the object, and user defined description of the *perspective features* of the scene. (This is commonly referred to as *perspective compensation*.)

In Detec, the perspective is defined by drawing the outlines of *planes* or *surfaces* directly into the image from a camera, and position and scale two icons representing the size of a standing person in the foreground and background part of each plane.

Regions

In Detec, a *region* is an area of the scene of some particular interest or importance. In practice regions are used to define critical areas like doorways, gates, etc., or to split a scene to define directional motion from one region to another. For definitions of motion, please refer to this next section.

No matter why you want to create a region, the way you handle it is the same, and the way you draw the regions is pretty much like the way you draw the perspective.

As regions are scene and application specific, Detec does not provide you with any default settings.

Note that regions may or may not overlap the planes of a scene, although the most natural way to define a region is within a plane, i.e. in an area of the image where Detec is able to classify objects. You should further be aware that, unlike planes, it does make sense to create regions that overlap each other.

Objects

The object classification in Detec makes it possible to set up specific alarm situations for different types of objects.

The most commonly used objects; “walking person”, “crawling person” and “vehicle” are supplied as defaults with Detec. You can alter these standard objects, or create new ones, in order to tailor the object classification to your needs.

Motion

The object tracking in Detec makes it possible to set up specifications for patterns of motion that an object must follow in order to trigger an alarm. A motion specification in Detec can refer to no particular region (i.e. the whole image), one region (typically a critical region) or two regions (i.e. a directional motion).

Alarms

To Detec, an alarm is a recognized *object* following a recognized pattern of *motion*. Thus, to specify an alarm you simply create a pair of an object and a motion.

By default, Detec comes with three alarms and two system alarms (*Signal Failure* and *User Alarm*). The predefined alarms are for walking person, crawling person and vehicle following general patterns of motion, i.e. moving anywhere in the scene. To define other objects than the ones supplied as default, please refer to the section, Objects. To create templates for patterns of motion for specific detection, refer to the section Motion above.



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Alarm Sets

With Detec, you can freely select which alarms to activate at different times of day different days of a week. This means that you are not simply switching the system on and off at different times, but you can actually make several sets of alarms and activate them on a per camera basis. This can, for instance, be utilized for running a general alarming around an office building during nighttimes, and a limited alarming on intrusion in critical areas during office hours.

Detec is delivered with three Alarm set defaults: "Day", "Night" and "Weekend".

Setting up a Schedule

Detec gives you the possibility of setting up a scheme for what situations should generate an alarm at different times of day, and different days of the week, month or year. What alarms are active is determined by including or excluding different types of alarms in different *Alarm sets*. By default, Detec comes with two sets of alarms for every camera; one called "Day" and one called "Night". You can however create new sets or delete the default ones as you wish.

Cameras with Simplified Detection Settings

These terms are especially important for Detec A and Detec Pro. For cameras with Detec T, Detec TL or Detec L licenses, the detection settings are simplified. Object, motion and alarms configurations are made inactive, and only configuration settings for region is left. When setting up a region, a new alarm is made automatically. This alarm will be named the same as the region.

The differences between the five Detec systems are described in *separate Data Sheets*. Ask Detec AS or your local distributor for the latest available versions of the data sheets.



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Highlights 2007

- Detec AS joined the ADABTS-project – R&D project on automatic detection of abnormal behaviour and threats in crowded spaces – international consortium
- Consortium members include:

Participant organisation name	Country
Swedish Defence Research Agency, FOI	Sweden
BAE Systems	United Kingdom
Detec AS	Norway
Home Office Scientific Development Branch	United Kingdom
Institute of Psychology – Ministry of the Interior	Bulgaria
SINTEF	Norway
TNO	The Netherlands
University of Amsterdam	The Netherlands